

## CLAIM AMENDMENTS

### IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. **(Currently Amended)** A valve body of a fluid injector comprising a needle extending in an axial direction and a cartridge with a recess which takes in the needle and which comprises on one of its ends a seat plate that comprises a needle seat for the needle, wherein the needle further comprises a seat part with a sealing area that rests on the needle seat if it is pushed against the needle seat, wherein the seat part comprises a cavity radially inwards from the sealing area and covering in axial extension the sealing area, the cavity defining a circumferential inner sidewall that extends in the axial direction, wherein the cavity makes the seat part more flexible in the sealing area as compared to an identical seat part without a cavity, such that ends of the seat part around the cavity flex inwardly due to micrometric deformations of the seat part when engaged in the needle seat, and wherein the cavity is at least partially filled with a material affixed to the circumferential inner sidewall of the cavity such that at least a portion of the material **being is** located directly between the ends of the seat part that flex inwardly, the material being securely affixed to the circumferential inner sidewall of the cavity such that the material does not move relative to the cavity during operation of the fluid injector, the material having a stiffness less than a stiffness of the seat part in order to achieve a desired flexibility of the seat part, whereby a seal is formed between the seat part and the needle seat when the seat part is engaged in the needle seat.

2. **(Previously Presented)** A valve body according to claim 1, wherein the cavity is formed as a blind hole.

3. **(Previously Presented)** A valve body according to claim 1, wherein the material affixed to the circumferential inner sidewall of the cavity comprises a filler part.

4. (Previously Presented) A valve body according to claim 3, wherein the filler part protrudes into a sack volume formed in the seat plate.

5. (Previously Presented) A valve body according to claim 3, wherein the filler part consists of plastics.

6. (Previously Presented) A valve body according to claim 1, wherein the cavity is formed in an annular shape.

7. (Previously Presented) A valve body according to claim 6, wherein part of the seat part protrudes into a sack volume formed in the seat plate.

8. (Withdrawn) A valve body according to claim 1, wherein the seat part is spherically shaped.

9. (Previously Cancelled)

10. **(Currently Amended)** A fluid injector comprising a housing, an actuator unit and a valve body, wherein the valve body comprising a needle extending in an axial direction and a cartridge with a recess which takes in the needle and which comprises on one of its ends a seat plate that comprises a needle seat for the needle, wherein the needle further comprises a seat part with a sealing area that rests on the needle seat if it is pushed against the needle seat, wherein the seat part comprises a cavity radially inwards from the sealing area and covering in axial extension the sealing area, the cavity being completely defined by one or more inner walls formed in the needle, including a circumferential inner sidewall that extends in the axial direction, wherein the cavity makes the seat part more flexible in the sealing area as compared to an identical seat part without a cavity, such that ends of the seat part around the cavity flex inwardly due to micrometric deformations of the seat part when engaged in the needle seat, and wherein the cavity is either completely empty or at least

partially filled with a material affixed to the circumferential inner sidewall of the cavity such that at least a portion of the material is located directly between the ends of the seat part that flex inwardly, **the material being securely affixed to the circumferential inner sidewall of the cavity such that the material does not move relative to the cavity during operation of the fluid injector, and** the material having a stiffness less than a stiffness of the seat part in order to achieve a desired flexibility of the seat part, whereby a seal is formed between the seat part and the needle seat when the seat part is engaged in the needle seat.

11. (Currently Amended) A valve body **of a fluid injector** comprising a needle movably arranged within a cartridge with a recess, wherein the cartridge comprises on one of its ends a seat plate that comprises a needle seat, wherein the needle further comprises a tip with a sealing area resting on the needle seat when pushed against the needle seat, wherein the tip comprises a cavity radially inwards from the sealing area, the cavity being completely defined by inner walls formed in the needle tip, and wherein the cavity is either completely empty or at least partially filled with a material affixed to the circumferential inner sidewall of the cavity in order to achieve a desired flexibility of the tip such that ends of the needle tip around the cavity flex inwardly due to micrometric deformations of the seat part when engaged in the needle seat, **wherein the material is securely affixed to the circumferential inner sidewall of the cavity such that the material does not move relative to the cavity during operation of the fluid injector, and** whereby a seal is formed between the seat part and the needle seat when the seat part is engaged in the needle seat.

12. (Previously Presented) A valve body according to claim 11, wherein the cavity is formed as a blind hole.

13-15. (Previously Cancelled)

16. (Previously Presented) A valve body according to claim 11, wherein the cavity has an annular shape.

17. (Previously Presented) A valve body according to claim 16, wherein part of the tip protrudes into a sack volume formed in the seat plate.

18. (Withdrawn) A valve body according to claim 11, wherein the tip is spherically shaped.

19. (Previously Cancelled)

20. **(Currently Amended)** A fluid injector comprising a housing, an actuator unit and a valve body, wherein the valve body comprising a needle extending in an axial direction and movably arranged within a cartridge with a recess, wherein the cartridge comprises on one of its ends a seat plate that comprises a needle seat, wherein the needle further comprises a tip with a sealing area resting on the needle seat when pushed against the needle seat, wherein the tip comprises a cavity radially inwards from the sealing area, the cavity defining a circumferential inner sidewall that extends in the axial direction, and wherein the cavity is at least partially filled with a material affixed to the circumferential inner sidewall of the cavity, the material having a suitable stiffness in order to achieve a desired flexibility of the tip and to enable micrometric deformations of the seat part when engaged in the needle seat, wherein the material is securely affixed to the circumferential inner sidewall of the cavity such that the material does not move relative to the cavity during operation of the fluid injector, and whereby a seal is formed between the seat part and the needle seat when the seat part is engaged in the needle seat.